

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-16. (canceled)

17. (currently amended) A communication system comprising:

a plurality of access point apparatus arranged along a predetermined route,

a plurality of station apparatus arranged on a mobile body adapted to move along the predetermined route and

an intra-mobile-body communication network for connecting the plurality of station apparatus,

the station apparatus being adapted to become belonging to one of the access point apparatus by wireless communication so as to be connected to a network by way of the access point apparatus,

the station apparatus located front-most in the moving direction of the mobile body being adapted to transmit the information acquired at the time of retrieving an access point apparatus to which the station apparatus located front-most in the moving direction of the mobile body is adapted to belong, to the station apparatus other than the station apparatus located front-most in the moving direction of the mobile body by way of the intra-mobile-body communication network,

wherein upon the station apparatus other than the station apparatus located front-most in the moving direction of the mobile body moves out of contact of a prior access point, the information acquired at the time of retrieving the access point apparatus to which the station apparatus located front-most in the moving direction of the mobile body is adapted to belong is used to connect the station apparatus other than the station apparatus located front-most in the moving direction to the access point apparatus without performing a scan.

18. (previously presented) The communication system according to claim 17, wherein the transmission is push transmission.

19. (previously presented) The communication system according to claim 17, wherein the transmission is pull transmission.

20. (previously presented) The communication system according to claim 17, wherein each of the station apparatus has means for judging if the own apparatus is located front-most in the moving direction of the mobile body or not.

21. (previously presented) The communication system according to claim 17, wherein,

when two or more than two station apparatus are located front-most in moving direction,

at least one of the station apparatus keeps on belonging to the access point apparatus while the other station apparatus retrieves an access point apparatus to which it is adapted to belong when the communication quality is degraded relative to the access point apparatus to which they are belonging.

22. (previously presented) A communication system comprising:

a plurality of access point apparatus arranged along a predetermined route,

a plurality of station apparatus arranged on a mobile body adapted to move along the predetermined route and

an intra-mobile-body communication network for connecting the plurality of station apparatus,

the station apparatus being adapted to become belonging to one of the access point apparatus so as to be connected to a network by way of the access point apparatus,

each of the station apparatus having storage means for storing information showing the access point apparatus to which it used to belong to,

the station apparatus located front-most in the moving direction of the mobile body being adapted to store the information it acquires at the time of retrieving an access point apparatus to be belonging to in the storage means by way of the intra-mobile-body communication network,

the station apparatus other than the station apparatus located front-most in the moving direction of the mobile body being adapted to refer to the information stored by the front-most station apparatus in the storage means prior to retrieving an access point apparatus to be belonging to.

23. (previously presented) The communication system according to claim 22, wherein the storage means is connected to the intra-mobile-body communication network.

24. (previously presented) The communication system according to claim 22, wherein the storage means is provided at the each station.

25. (previously presented) The communication system according to claim 22, wherein each of the station apparatus has means for judging if the own apparatus is located front-most in the moving direction of the mobile body or not.

26. (previously presented) The communication system according to claim 25, wherein each of the station apparatus judges if the own apparatus is located front-most in the moving direction of the mobile body or not according to the information that the own apparatus and other station apparatus stored in the storage means.

27. (previously presented) The communication system according to claim 22, wherein,

when two or more than two station apparatus are located front-most in the moving direction,

at least one of the station apparatus keeps on belonging to the access point apparatus while the other station apparatus retrieves an access point apparatus to which it is adapted to belong when the communication quality is degraded relative to the access point apparatus to which they are belonging.

28. (currently amended) A communication system comprising:

a plurality of access point apparatus arranged along a predetermined route,

a plurality of station apparatus arranged on a plurality of mobile bodies adapted to move in the same direction along the predetermined route, each of the mobile bodies having at least a station apparatus arranged thereon and

an inter-mobile-body communication network for connecting the plurality of station apparatus,

the station apparatus being adapted to become belonging to one of the access point apparatus by wireless communication so as to be connected to a network by way of the access point apparatus,

each of the station apparatus having means for judging if the mobile body where the own apparatus is arranged is located front-most in the moving direction of the mobile body or not,

the station apparatus arranged on the mobile body located front-most in the moving direction being adapted to notify the station apparatus arranged in the mobile bodies not located front-most with the information acquired at the time of retrieving an access point apparatus to be belonging to by way of the intra-mobile-body communication network.

wherein upon the station apparatus not located front-most in the moving direction moves out of contact of a prior access point, the information acquired at the time of retrieving the access point apparatus to which the station apparatus located front-most in the moving direction is adapted to belong is used to connect the station apparatus not located front-most in the moving direction to the access point apparatus without performing a scan.

29. (previously presented) The communication system according to claim 28, wherein the transmission is push transmission.

30. (previously presented) The communication system according to claim 28, wherein the transmission is pull transmission.

31. (previously presented) The communication system according to claim 28, wherein,

when two or more than two mobile bodies where station apparatus are arranged are located front-most in the moving direction, at least one of the station apparatus keeps on belonging to the access point apparatus while the other station apparatus retrieves an access point apparatus to which it is adapted to belong when the communication quality is degraded relative to the access point apparatus to which they are belonging.

32. (previously presented) A communication system comprising:

a plurality of access point apparatus arranged along a predetermined route,

a plurality of station apparatus arranged on a plurality of mobile bodies adapted to move in the same direction along the predetermined route, each of the mobile bodies having at least a station apparatus arranged thereon and

an inter-mobile-body communication network for connecting the plurality of station apparatus,

the station apparatus being adapted to become belonging to one of the access point apparatus by wireless communication so as to be connected to a network by way of the access point apparatus,



each of the station apparatus having storage means for storing information showing the access point apparatus to which it used to belong to,

each of the station apparatus having means for judging if it is located front-most in the moving direction of the mobile body or not,

the station apparatus arranged in the mobile body located front-most in the moving direction being adapted to store the information it acquires at the time of retrieving an access point apparatus to be belonging to in the storage means by way of the intra-mobile-body communication network,

the station apparatus arranged in the mobile bodies other than the mobile body located front-most in the moving direction being adapted to refer to the information stored by the station apparatus arranged in the mobile body located front-most in the storage means prior to retrieving an access point apparatus to be belonging to.

33. (previously presented) The communication system according to claim 32, wherein the storage means is connected to the intra-mobile-body communication network.

34. (previously presented) The communication system according to claim 32, wherein the storage means is provided at the each station.

35. (previously presented) The communication system according to claim 32, wherein each of the station apparatus judges if the mobile body where the own apparatus is arranged is located front-most in the moving direction or not according to the information that the own apparatus and other station apparatus stored in the storage means.

36. (previously presented) The communication system according to claim 32, wherein,

when two or more than two mobile bodies where station apparatus are arranged are located front-most in the moving direction, at least one of the station apparatus keeps on belonging to the access point apparatus while the other station apparatus retrieves an access point apparatus to which it is adapted to belong when the communication quality is degraded relative to the access point apparatus to which they are belonging.